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a floodplain management newsletter

Volume 40

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Driving through floodwaters always a gamble

Experts say that the seeming invulnerability of a car creates an unwarranted sense of safety when driving through flooded roadways or over stream crossings. In the last five years the only two flood related deaths in Montana occurred when vehicles were swept away by floodwaters. Both deaths happened during the floods of 1986.

"If you have moving water of unknown depth, it is insane to enter it," said Dr. Gary Nelson, a Texas-based safety engineering consultant. Driving through any fast-moving water more than a foot deep is a risk, experts say, and counter to the urges of panic, driving slowly reduces that risk. Naturally, a current deep enough to cover a car will float it away, but even relatively shallow streams are dangerous. "An auto driving straight into a 2-foot deep stream will end up with about 18 square feet of car surface being hit broadside by the force of the flow," Dr. Nelson said. If the water is moving at 15 mph—not unusual for a flash flood current—hydrologists say the side of the car will be hit by more than 25,000 pounds of water every second. That's about the same weight as a rolling transit bus. A stream only a foot deep will smack the same car with more than 7,000 pounds of water a second—about the same weight as a loaded Lincoln.

As tires roll quickly over a wet road, a thin film of water slips between the rubber and the road surface. This hydroplaning reduces the friction, and at worst, the tires hold to the road no better than if they were

sliding over smooth ice. That means the car is left with no resistance to the force of the current.

"They probably figure they need to drive fast, but what they really need to do is drive very slowly," said Dr. Marie Morisawa, a geologist and hydrologist for State University of New York. "Even a careful driver who enters a shallow stream isn't safe," Dr. Morisawa said. "Often there are crests—large waves—driven downstream by the rain." That means a shallow stream can get much deeper in a few moments.

The best idea, experts agree, is to avoid driving into any moving water during flash-flood conditions. While many longtime residents understand the power of such currents, more recent arrivals can be caught by surprise. If you conduct any flood safety or awareness programs in your community, the danger of driving over flooded roads or stream crossings should be stressed. Also, information on this danger could be included in your community's drivers education program.

Reprinted with permission from The Dallas Morning News.



"Even a careful driver who enters a shallow stream isn't safe." Photo by Larry Mayer

Pumping out flooded basements

The most common flood problem in Montana is flooded basements. This spring and summer, homeowners in your area may be experiencing this problem. Following are some suggestions on pumping out basements that appeared in a Minnesota state newsletter "Water Talk". This information may be useful for any flood awareness information or news releases you may be preparing.

Homeowners tend to panic when flood waters enter their basements, particularly if their basements are finished and contain expensive belongings. It is common practice to pump out basements

or the lower portions of a house during or soon after a flood. This can be a frustrating and dangerous practice.

Many times when flood water is pumped out, groundwater flows back into the basement as fast as it is removed, wasting manpower and equipment hours on an impossible task. In addition, outside pressures on basement and/or foundation walls are great during a flood. The water in your basement may be helping to support the walls by equalizing the pressure. This pressure can sometimes crack or cave in walls or uplift basement floors.

Here are some preliminary steps to follow before pumping out your basement:

1. Examine the structure of the building, check the foundations for settling, cracking, or undermining. Look at the walls, floors, doors, and windows to determine what repairs are necessary. BEFORE ENTERING THE STRUCTURE, MAKE SURE THAT ALL ELECTRIC, GAS, AND OIL VALVES ARE TURNED OFF.

2. If you must pump, it is safest to begin pumping the water in stages—about one-third of the water per day, and to MAKE SURE THAT THE LEVEL OF THE FLOOD WATERS IS BELOW THE LEVEL OF THE BASEMENT FLOOR.

Saturated soil could cause the basement walls to collapse!

3. Get the electrical system back in operation by having the system checked by a QUALIFIED ELECTRICIAN. Have your electrical appliances serviced before using.

4. If the furnace was inundated by flood waters, HAVE IT INSPECTED BY A QUALIFIED SERVICER. Before operating, the system may need to be cleaned, dried, and reconditioned. Make sure the chimney is cleaned of debris before using.

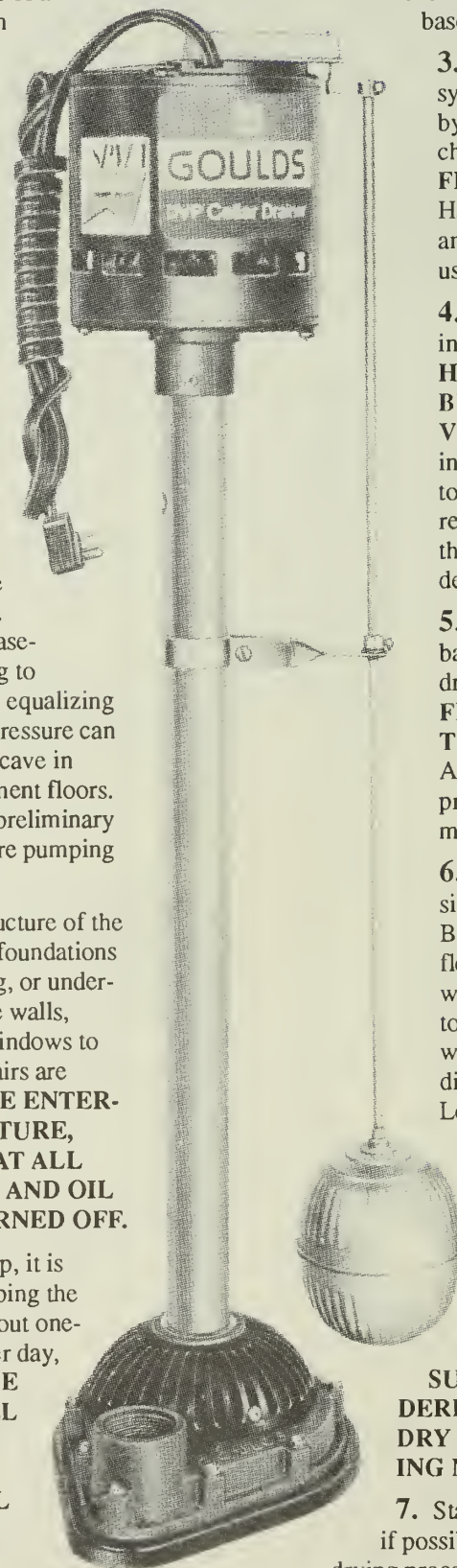
5. Get the water system back in operation. Clean drains, pipes, etc. DISINFECT WELLS AND THE WATER SYSTEM. A qualified plumber can provide the "how to" and methods to use.

6. Shovel the mud and silt out before it dries. Before the walls and floors dry, wash down with a hose, starting at the top of the wall and then working down. Scrub and disinfect walls and floors. Leave windows and doors

open to speed up drying. A complete drying may take as long as a few months. When you repair walls and floors that have buckled, MAKE

SURE THAT THE UNDERLYING MATERIAL IS DRY BEFORE INSTALLING NEW MATERIALS.

7. Start up the heating system if possible. This can help in the drying process.



From the Department of Redundancy Department

This excerpt from a federal agency document recently appeared in the newsletter "Water Talk" published by the Minnesota DNR Division of Waters. A free subscription to *High Water* will be given to anyone who can decipher it.

"The classification of an emergency may be changed if the situation changes.

If the near-term probability that the threat to life or property is reduced because of emergency assistance or other factors, an exigency may be reclassified as a nonexigency. Similarly, as occurrences increase the probability of threats to life or property, previous nonexigencies will be appropriately reclassified as exigencies. If warranted, situations previously considered non-emergencies will be appropriately reclassified as nonexigencies or exigencies."

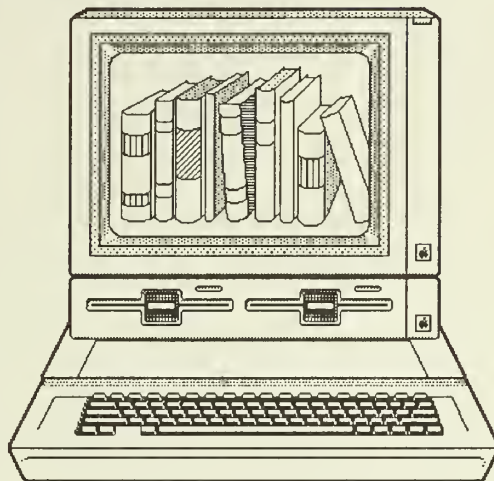


The Floodplain Management Resource Center:

A data base and publication collection

Looking for information on floodplain management? Need help locating a flood management publication? Want to know how others have solved similar flood problems? The Natural Hazards Research and Applications Information Center may have the answer.

As part of its referral services, the Hazards Center administers the Floodplain Management Resource Center, a data base and publication collection for the Association of State Floodplain Managers (ASFPM). The ASFPM is collecting and cataloging the documents to be included in the Resource Center collection, and the Hazards Center is housing the actual publications and maintaining the document summaries on computer. By using keywords, center staff can easily and quickly search through the data base for publications that best meet a user's needs. Therefore, any person with questions or concerns involving floodplain management can call or write the Hazards



Center and receive a list of possible information sources.

Thusfar, the ASFPM subcontractors who are selecting documents for the Resource Center have reviewed and cataloged publications dealing with flood-proofing, and they are currently adding

documents on flood problems of the arid west, stormwater management, and community floodplain management programs. Ultimately, all publications of a regional or national scope (including books, manuals, reports, and other documents relating to floodplain management) will be screened for inclusion in the data base.

The Floodplain Management Resource Center can be used by calling (303)492-6818 (9:00 A.M. to 4:00 P.M. MST/MDT, Monday through Friday) or by writing the Natural Hazards Center, Attn: Floodplain Management Resource Center, IBS #6, Campus Box 482, University of Colorado, Boulder, CO 80309-0482.

There is no charge for this service. Persons owning or aware of documents they believe should be included in the data base are encouraged to bring the publications to the attention of the center.

Reprinted from The Idaho Waterlog, March 1990

New ideas to improve floodplain management—H.R. 3456

There have been several good ideas to improve floodplain management introduced by Congressional legislation this year. Some of these involve restructuring the flood insurance program, and others focus on improving flood hazard mitigation. H.R. 3456, the National Flood and Erosion Insurance and Mitigation Act of 1989, introduced by Carper (D-DE) and Erdreich (D-AL), contains some innovative approaches to improving floodplain management.

Carper explains that the bill is aimed at meeting two important goals: protecting property subject to repetitive flooding and discouraging development in critically hazardous areas such as floodways. According to Carper the bill would accomplish these goals by:

- authorizing the escrow of flood insurance premiums to ensure that flood insurance is carried throughout the life of the loan;

- imposing civil penalties on lenders who fail to require the purchase of flood insurance for a property where flood insurance is required by law;
- requiring regular review of flood insurance maps and providing adequate funding to bring them up-to-date;
- requiring the identification of repetitive-loss properties, evaluating the need for a feasibility of modifications to them to reduce further flood claims, providing financial assistance to homeowners to assist in making recommended modifications, and sanctioning those who fail to initiate these modifications;
- assisting states and communities in the purchase of property that has suffered substantial damage from floods;
- helping states and communities that have developed comprehensive flood

hazard mitigation plans to purchase property that is located in areas of critical hazard and set that land aside as open space;

- creating a Flood Mitigation Fund by setting aside 5 percent of premiums paid to the National Flood Insurance Fund to provide for the repetitive-loss loan program and the property-purchase programs described above.

DNRC's floodplain management section supports Carper's ideas. The first three items—escrowing insurance, lender penalties, and map updates—would be especially helpful in Montana. Currently H.R. 3456 is in subcommittee. The subcommittee is reviewing several other bills concerning flood insurance and mitigation along with H.R. 3456. A single recommended revised bill is expected in late July.

Portions of this article taken from The Idaho Water Log, March 1990.

Deadline set for floodplain ordinance updates

The Board of Natural Resources and Conservation recently adopted amendments to the administrative rules governing floodplain management. This action by the Board necessitates amendment of local ordinances adopted under authority of the Floodplain and Floodway Management Act, § 76-5-301, MCA. A March 5, 1991 deadline was established for local officials to enact ordinances or amendments to existing ordinances meeting the new minimum standards.

Flood Video Footage Wanted

We are producing a public service video on flooding this year. If you have any flooding or flood damage on video tape, please contact Deeda Richard at 444-6654.

These rules were adopted under authority provided by § 76-5-301 Montana Floodplain and Floodway Management Act. The new rules can be found in the Administrative Rules of Montana, ARM, 36.15.101 through 36.15.903. Copies of the administrative rules are provided by the Secretary of State to each county commission, city/town council, and to public libraries.

These amendments were made to ensure consistency between the Board's rules and National Flood Insurance Program (NFIP) requirements. The rule amendments are also intended to address issues that have been brought before the Board since rules were originally adopted more than 15 years ago.

A model ordinance that meets all of the Board's requirements and includes changes to the NFIP regulations has been

prepared by the DNRC floodplain management staff. A copy of the model ordinance has been provided to the communities that have 100-year flood elevations. Communities that have mapped floodplains, but don't have established 100-year flood elevations, are not required to update their ordinances at this time. If you want copies of the administrative rules or the model ordinance, please contact us.

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